

REMARKS

Claims 1-11 remain present in this application.

The specification and claims 3 and 7 have been amended. Reconsideration of the application, as amended, is respectfully requested.

Objection to the Drawings

The drawings stand objected to under 37 CFR 1.83(a). The Examiner has asserted that the first engaging portion, the second engaging portion, the protruding portion, and a matching recessed portion must be shown in the drawings or cancelled from the claims.

The specification has been amended to include a more detailed description of these features. More specifically, the specification now states that, "[a]s shown in Fig. 2a, the second engaging portion 216 is a protruding portion on the first bobbin 20, the first engaging portion 206 is a matching recessed portion on the second bobbin 21, and the protruding portion enters the matching recessed portion to engage the first and second bobbins 20 and 21."

Because these features are present in the originally filed drawings, and the present amendment is being made simply to include a more detailed description thereof, it is respectfully submitted that no new matter is present in this amendment.

Accordingly, it is respectfully submitted that the first engaging portion, the second engaging portion, the protruding portion, and a matching recessed portion are clearly shown in Fig.

2a. Reconsideration and withdrawal of any objection to the drawings are respectfully requested.

Objection to the Claims

Claim 3 stands objected to for an informality. The Examiner asserts that this claim lacks proper antecedent basis for the limitation "the insulating cover." It is respectfully submitted, however, that claim 3 contains no such limitation. It is believed that the Examiner is referring to claim 7, which has now been corrected. Reconsideration and withdrawal of any objection to the claims are respectfully requested.

Rejection under 35 USC 112

Claims 3 and 7 stand rejected under 35 USC 112, second paragraph. This rejection is respectfully traversed.

In view of the foregoing amendments, it is respectfully submitted that all claims particularly point out and distinctly claim the subject matter of the instant invention. Accordingly, reconsideration and withdrawal of the 35 USC 112, second paragraph rejection are respectfully requested.

Rejection under 35 USC 103

Independent Claim 1

Claims 1-6, 8 and 11 stand rejected under 35 USC 103 as being unpatentable over ISHIWAKI, U.S. Patent 5,847,518, in view of

Applicant's Admitted Prior Art. This rejection is respectfully traversed.

It is respectfully submitted that ISHIWAKI and the Applicant's Admitted Prior Art, either alone or in combination, fail to teach, disclose, or suggest the following features recited by claim 1 of the present application.

Independent claim 1 is directed to a transformer comprising an iron core structure 22, a first bobbin 20, a first primary coil 23, a first secondary coil 24, a second bobbin 21, a second primary coil and a second secondary coil. **The iron core structure 22 passes through and surrounds the first and second bobbins 20 and 21.** The iron core structure 22 comprises a first core portion 221, a second core portion 222 and a third core portion 223. The first and second core portions 221 and 222 respectively pass through the first and second bobbins 20 and 21. The third core portion 223 surrounds the first and second bobbins 20 and 21.

Independent claim 1 of the present application also discloses that the first bobbin 20 comprises a first hollow portion 201 and a second hollow portion 202. The second bobbin 21 comprises a third hollow portion 211 and a fourth hollow portion 212. **The first primary coil 23 is wound around the first hollow portion 201, the first secondary coil 24 is wound around the second hollow portion 202, the second primary coil is wound around the third hollow portion 211, and the second secondary coil is wound around the fourth hollow portion 212.** Namely, the four coils are wound on

four hollow portions respectively or the four coils are wound on two bobbins respectively.

The Examiner acknowledges that ISHIWAKI does not teach the iron core structure passing through and surrounding the bobbins. However, he asserts that the Applicant's Admitted Prior Art teaches this feature. It is respectfully submitted that the Examiner is incorrect in this regard.

Under MPEP 2143, to establish a prima facie of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. It is respectfully submitted that none of these three criteria are met.

First, as discussed above, ISHIWAKI fails to teach the limitations that the iron core structure 22 passes through and **surrounds the first and second bobbins 20 and 21**, as recited in claim 1 of the present application. Applicant's Admitted Prior Art fails to teach the limitation that the iron core structure 22 passes through and surrounds **the first and second bobbins 20 and 21**, as recited in claim 1 of the present application. Further, neither ISHIWAKI nor Applicant's Admitted Prior Art teach the limitation that **the four coils are wound on four hollow portions**

(two bobbins) respectively, as recited in claim 1 of the present application.

Second, the object and the effect of the present application are different from that of ISHIWAKI and Applicant's Admitted Prior Art, either alone or in combination. The magnetic circuit of the present application is different from the magnetic circuit of ISHIWAKI. In ISHIWAKI, the iron core structure is U-shaped. In the present application, the iron core structure comprises three portions. Also, their structures are different. The flux leakage of the U-shaped iron core structure exceeds the flux leakage of the present applicant's iron core structure. The present application's iron core structure has more inductance leakage requirement.

Third, since the objective of ISHIWAKI and Applicant's Admitted Prior Art are very different from that of the present application, and since none of the cited references recognize the problem identified by the present application, there is no reasonable expectation of success by combining the features of these references.

As mentioned above, the Examiner has not provided any reference or combination of references showing that the iron core structure with a plurality of portions passes through and surrounds the first and second bobbins, and the four coils are respectively wound around the first and second bobbins. Therefore, the Examiner has not established prima facie evidence.

However, neither ISHIWAKI nor Applicant's Admitted Prior Art teaches or suggests using the iron core structure with three

portions passing through and surrounding the first and second bobbins, as is disclosed in claim 1 of the present application. Further, neither ISHIWAKI nor Applicant's Admitted Prior Art teaches or suggests that the first primary, first secondary, second primary, and second secondary coils are respectively wound around the first and second bobbins as disclosed in claim 1 of the present application. It is again noted that the Examiner has not established a prima facie evidence case against the present application.

In view of the foregoing amendments, it is respectfully submitted that claim 1, as well as its dependent claims 2-9, are neither taught nor suggested by the prior art utilized by the Examiner.

Independent Claim 11

Claim 11 of the present application is directed to a transformer comprising a plurality of bobbins, a plurality of primary coils, a plurality of secondary coils and an iron core structure. The iron core structure passes through and surrounds each bobbin.

Claim 11 of the present application also discloses that a plurality of primary coils is wound on one end of each bobbin and a plurality of secondary coils is wound on the other end of each bobbin.

Accordingly, it is respectfully submitted that independent claim 11 is also neither taught nor suggested by the prior art utilized by the Examiner.

Allowable Subject Matter

Although the Examiner has not included a statement regarding allowable subject matter, it is noted that no prior art rejections have been made against claims 7 and 10. Accordingly, it is believed that these claims contain allowable subject matter. In the event that the next action issued by the Examiner includes a prior art rejection of either of these two claims, it is respectfully submitted that it would be inappropriate to make this action a final rejection.

Regardless, it is respectfully submitted that all claims should now be in condition for allowance.

Conclusion

It is respectfully submitted that the claims of the present application are neither taught nor suggested by the prior art utilized by the Examiner. Accordingly, reconsideration and withdrawal of the 35 USC 103 rejection are respectfully requested.


Favorable reconsideration and an early Notice of Allowance are earnestly solicited.

In the event that any outstanding matters remain in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
Joe McKinney Muncy, #32,334

KM/asc
0941-0912P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

(Rev. 02/12/2004)